

**AMENDMENTS TO THE SPECIFICATION:**

Replace the BRIEF DESCRIPTION OF THE DRAWINGS paragraph on page 4 with the following:

A more complete understanding of the invention may be gained by reading the subsequent detailed description with reference to the drawings wherein:

FIG. 1 is a simplified block diagram of a typical transmitter using Space Time Transit Diversity (STTD) of the present invention;

FIG. 2 is a block diagram showing signal flow in an STTD encoder of the present invention that may be used with the transmitter of FIG. 1;

FIG. 3 is a schematic diagram of a phase correction circuit of the present invention that may be used with a receiver as in figure 8;

FIG. 4A is a simulation showing STTD performance compared to Time Switched Time Diversity (TSTD) for a vehicular rate of 3 kmph;

FIG. 4B is a simulation showing STTD performance compared to TSTD for a vehicular rate of 120 kmph;

FIG. 5 is a block diagram showing signal flow in an OTD encoder of the prior art;

FIG. 6 is a block diagram of a despreader input circuit of the prior art that may be used with a receiver as in figure 8; [and]

FIG. 7 is a schematic diagram of a phase correction circuit of the prior art; and

FIG. 8 is a space time block coded receiver of the present invention.

Insert paragraph after line 24 on page 5:

Referring now to FIG. 8, there is a space time block coded receiver of the present invention. The receiver includes despreader circuit 800 coupled to receive respective path-specific signals  $r_j(i + \tau_j)$  for the  $i^{th}$  chip corresponding to paths  $j$ . These path-specific signals include a first input signal from a first antenna ANT 1 (FIG. 2) and a second input signal from a second antenna ANT 2. The first input signal is transmitted along plural signal

paths, each of the plural signal paths having a respective channel characteristic  $\alpha_1^1$  through  $\alpha_j^1$ . The second input signal is also transmitted along respective plural signal paths, each having a respective channel characteristic  $\alpha_1^2$  through  $\alpha_j^2$ . The despreader circuit (FIG. 8) produces and applies respective signals, for example signals  $R_j^1$  and  $R_j^2$  at leads 832 and 834, to phase correction circuit 810. Signal  $R_j^1$  includes  $j$  symbols received at a first time from antenna ANT 1 according to equation [5]. Signal  $R_j^2$  includes  $j$  symbols received at a second time from antenna ANT 2 according to equation [6]. The phase correction circuit is coupled to receive respective input signals and path-specific estimate signals, for example input signals  $R_j^1$  and  $R_j^2$ , a first plurality of estimate signals and estimate signals  $\alpha_j^{1*}$  and  $\alpha_j^2$  at phase correction circuit 810. The phase correction circuit produces and applies respective symbol estimates according to equations [7-8], for example first and second symbol estimates  $S_j^1$  and  $S_j^2$  at leads 836 and 838, to rake combiner circuits 820 and 822. The plurality of first symbol estimates  $S_j^1$  correspond to the  $j$  signal paths from antenna ANT 1 and include a first symbol estimate  $S_1^1$ . The plurality of second symbol estimates  $S_j^2$  correspond to the  $j$  signal paths from antenna ANT 2 and include a second symbol estimate  $S_1^2$ . Rake combiner circuit 820 sums first symbol estimates from each path of the phase correction circuit and produces a first symbol signal  $\tilde{S}_1$  at lead 824 according to equation [9]. Likewise, rake combiner circuit 822 sums second symbol estimates from each path of the phase correction circuit and produces a second symbol signal  $\tilde{S}_2$  at lead 826 according to equation [10].

Rewrite the paragraph at page 5, line 26, as follows:

Referring now to FIG. 3, there is a schematic diagram of a phase correction circuit of the present invention that may be used with a remote mobile receiver as in figure 8. This

phase correction circuit receives signals  $R_j^1$  and  $R_j^2$  as input signals on leads 610 and 614 as shown in equations [5-6], respectively.

Replace the paragraph on page 6 comprising equation [6] with the following.

$$R_j^2 = \sum_{i=N}^{2N-1} r_j(i + \tau_j) = \alpha_j^1 S_2 + \alpha_j^2 S_1^* \quad [6]$$